(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number
WO 2005/066624 A1

(51) International Patent Classification[7]: G01N 30/88

(21) International Application Number:
PCT/KR2005/000016

(22) International Filing Date: 5 January 2005 (05.01.2005)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2004-0000440 5 January 2004 (05.01.2004) KR

(71) Applicants *(for all designated States except US)*: **BIO-MED PHOTONICS CO., LTD.** [KR/KR]; #3-3, Bio-venture plaza, Hupyeong-dong, Chuncheon-si, Gangwon-do 200-160 (KR). **BODITECHMED INC.** [KR/KR]; #3-2, Bio-venture plaza, Hupyeong-dong, Chuncheon-si, Gangwon-do 200-160 (KR).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **NAHM, Kie-Bong** [KR/KR]; 2-409 Kukje Apt., 612 Daechi-dong, Gangnam-gu, Seoul 153-853 (KR). **CHOI, Eui-Yeol** [KR/KR]; 102-1205 Samsung Apt., 1068 Udu-dong, Chuncheon-si, Gangwon-do 200-150 (KR). **KIM, Jae-Hoon** [KR/KR]; 102-201, Woosung Apt., Toegye-dong, Chuncheon-si, Gangwon-do 200-170 (KR).

(74) Agent: **SON, Min**; 19th Floor, City Air Tower, 159-9 Samsung-dong, Kangnam-gu, Seoul 135-973 (KR).

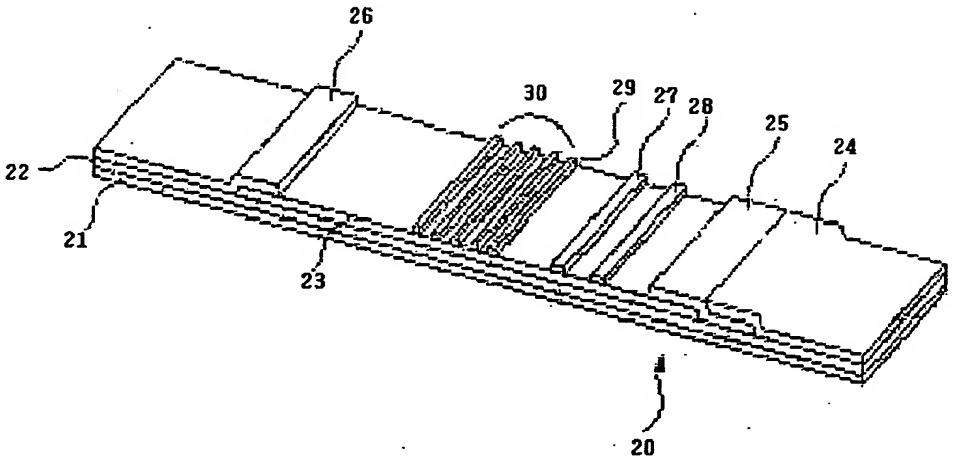
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) Title: A METHOD FOR THE DETECTION OF LATERAL FLOW ASSAY AND STRIP AND LASER-INDUCED EPIFLUORESCENCE AND COMPACT SCANNER THEREFOR



(57) Abstract: Disclosed is a lateral flow quantitative assay method capable of quantitatively determining the concentration and analyzing the spatial distribution of a disease marker by employing the principle of the laser-induced fluorescence detection technique, which is based on detecting emitted fluorescence when laser light is focused to the disease marker deposited onto a lateral flow quantitative assay chip. The present invention discloses a strip, a laser-induced epifluorescence detection device and a small scanner for the assay method. The present assay method is advantageous in terms of allowing quantitative point-of-care diagnostics in hospitals, being capable of specifically detecting a disease marker by optimizing a lateral flow assay biochip for diagnosis of a specific disease, allowing more accurate quantitative analysis of analytes, and being capable of simultaneously analyzing several cancer markers, reducing the hook effect and expanding the detection range and accurately measuring concentration of analytes.

WO 2005/066624 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.